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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,692	12/02/2003	Kathrin Michl	246049US0	1976

22850 7590 08/04/2005

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EXAMINER

JACKSON, MONIQUE R

ART UNIT PAPER NUMBER

1773

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/724,692

Applicant(s)

MICHL ET AL.

Examiner

Monique R. Jackson

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 1, 3, 4, 6-10, 12-18, the phrases "especially" and "preferably" render the claim indefinite because it is unclear whether the limitations following the phrases are part of the claimed invention. Further, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 3, 4, 6, 7, 9, 10, 12, and 13 include broad recitations of ranges followed by a narrower statement of the range/limitation. It is also noted that claims 7 and 13 recites the limitation "the storage modulus" however it is unclear what "the storage modulus" refers to, i.e. is it the storage

Art Unit: 1773

modulus of the copolymer, of the crosslinker, of the binder composition, etc.? Hence, there is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Fourment et al (USPN 3,784,396.) Fourment et al teach a process of treating a substrate with ethylene-maleic anhydride copolymer powder having a particle size between 0.5 micron and 400 micron and possessing on its particles (*reads upon instant component a*), at least one crosslinking agent for the copolymer, which contains as reactive groups one, two, three or four alcoholic-OH groups and at least one amino or amido group, in an amount from 0.05 to 6 reactive groups per anhydride group present (*reads upon instant component b*) wherein Fourment et al specifically teach crosslinking agents that read upon the instantly claimed invention (Abstract; Col. 1, lines 64-Col. 2, line 4.) Fourment et al teach that the ethylene-maleic anhydride copolymer contain 80 to 99 parts by weight of ethylene and from 1 to 20 parts by weight maleic anhydride and may further contain a small amount of a third monomer such as polyolefins like propene and isobutene (Col. 1, lines 20-40.) Fourment et al teach that the combination of the substrate or material to be treated and the powder are heated to a temperature between 110 and 300°C, preferably 150 to 280°C (Col. 2, lines 54-60.) Fourment et al further teach that the powder and treating process can be used to effect the agglomeration of various particles, such as, for

Art Unit: 1773

example, vegetable scrap like wood, shavings, hemp or straw, or of various fibers such as cotton, rayon, nylon or leather; or it may be used to impregnate various textiles (Col. 9, lines 53-58.)

With respect to Claims 6, 7, 12 and 13, though Fourment et al do not specifically teach the storage modulus or difference between the softening/melting points of the copolymer and crosslinker, the Examiner takes the position that the invention taught by Fourment et al would inherently meet these limitations considering the copolymer and crosslinker are the same as instantly claimed.

5. Claims 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohara et al (USPN 3,900,440.) Ohara et al teach a formaldehyde-free adhesive composition comprising (A) a copolymer of an olefin and a carboxylic acid or derivative such as maleic anhydride (*reads upon instant component a*), (B) a salt of a polyvalent metal, and (C) a compound having at least two epoxy groups per molecule (*reads upon instant component b*); wherein Ohara et al teach that the adhesive is suitable for the formation of plywood from wood chips (Abstract; Col. 1, lines 59-Col. 2, lines 11.) Ohara et al teach that styrene-maleic anhydride and the  $\alpha$ -olefin-maleic anhydride copolymers, including terpolymers, are most especially preferred wherein suitable  $\alpha$ -olefins include straight and branched  $\alpha$ -olefins having 2 to 8 carbon atoms, preferably 2 to 6 carbon atoms, such as ethylene, propylene, n-butene and isobutene, with a mole ratio of  $\alpha$ -olefin to maleic anhydride of 1:1 (Col. 2, lines 41-50; Col. 3, lines 17-34; Col. 4, lines 45-57.) Ohara also teach that the adhesive may further comprise a catalyst such as triethylamine, triethanolamine, dimethylaniline, quinoline and zinc acetate to promote the reaction between component b, the carboxyl group-containing polymer, and the epoxy compound (Col. 6, lines 4-8.) Ohara et al further teach that the adhesive is suitable for the formation of plywood and

Art Unit: 1773

particleboards and for bonding articles other than wood articles, for instance, inorganic plates such as plates of mineral fibers like asbestos or rock wool; wherein Ohara et al specifically teach an example of producing a particle board by mixing an adhesive comprising isobutylene-maleic anhydride in a mole ratio of 1:1 and a crosslinking agent, with lauan chips and then compressing the mixture under heat to obtain a single layer particle board (Col. 10, lines 9-20; Examples 9-10.) Though Ohara et al do not teach that the adhesive is in particulate or pulverulent form, the Examiner takes the position that the final cured product of Ohara et al would be the same as the final product of instant Claims 18 and 19.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohara et al. The teachings of Ohara et al are discussed above wherein the adhesive taught by Ohara et al is the same as the instantly claimed adhesive with the exception that Ohara et al teaches that the adhesive is provided in an aqueous latex and not in powder or pulverulent form as instantly claimed. However, considering it is known in the art that a solid or powder state is an equivalent form to an aqueous or liquid state in terms of adhesives based on the desired end use, it would have been obvious to one having ordinary skill in the art at the time of the invention to provide the adhesive taught by Ohara et al in a solid or powder state based on the desired end use of the adhesive composition.

Art Unit: 1773

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Vanderbilt (USPN 5,075,386) teaches a hot-melt adhesive comprising an acid graft modified propylene/olefin copolymer with an epoxy crosslinking agent. Scholz (USPN 4,855,372) teaches a method of preparing pulverulent olefin-maleic anhydride copolymers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Monique R. Jackson  
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August 2, 2005